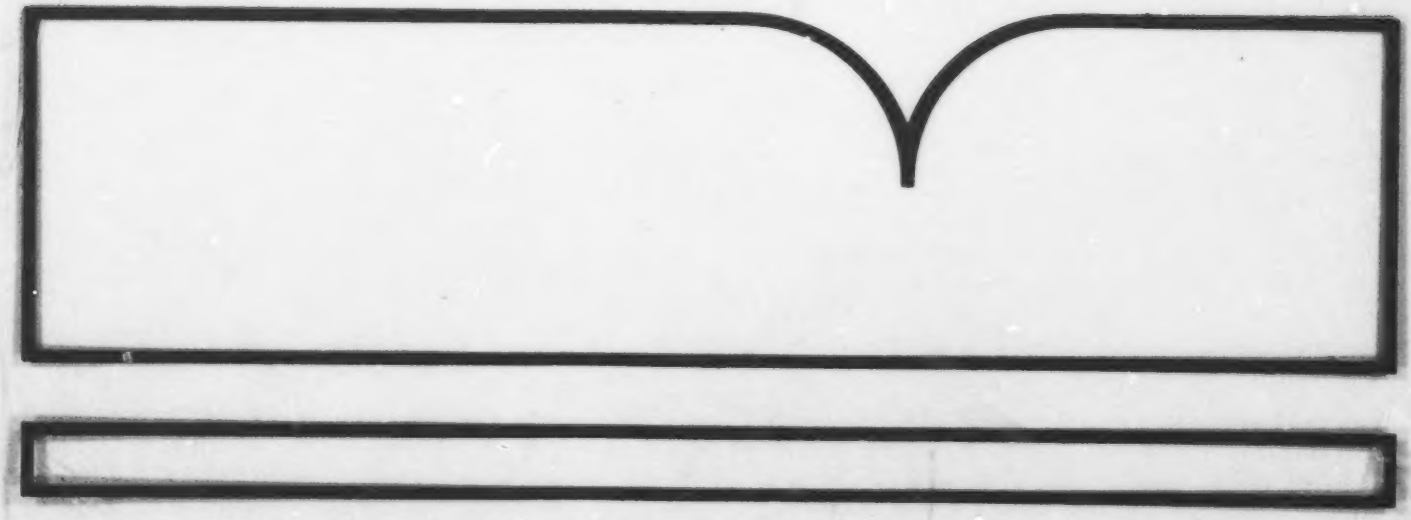
PB85-213619

Superfund Record of Decision
(EPA Region 1)
McKin Site, Gray, Maine, July 1983

(U.S.) Environmental Protection Agency
Washington, DC

15 Jul 83



U.S. Department of Commerce
National Technical Information Service

United States
Environmental Protection
Agency

Office of
Emergency and
Remedial Response

EPA/ROD/R01-83/003
July 1983

PB85-213619

EPA

Superfund Record of Decision:

McKin Site, ME

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TECHNICAL REPORT DATA
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15. SUPPLEMENTARY NOTES

16. ABSTRACT

The McKin site is located approximately 1.5 miles east of Gray center on the Mayall Road in Gray, Maine. The site includes approximately 6 acres and is surrounded by residences, the closest being within 200 feet. The site lies in an abandoned sand and gravel pit and currently consists of a fenced enclosure, 21 tanks (12 of which are outside the fence), an incinerator, a concrete block building, an asphalt lined lagoon and other debris. In 1979, liquid wastes were removed from the site, however, non-pumpable sludges were left on-site. Most of the tank contents (33,500 gallons) and 165 fifty-five gallon drums of oil and chemical wastes were removed under the supervision of the Maine Department of Environmental Protection. Air monitoring in 1982 showed high levels of volatile organics around the tanks. Remaining materials in the tanks were found to contain concentrations (up to 20%) of dichloroethylene, freon, trichloroethylene and xylene.

Selected actions for this Initial Remedial Measure (IRM) include: on-site cleaning of the tanks, transport of empty tanks off-site for salvage, and transport of liquids and sludges off-site for disposal. Estimated capital cost for this IRM is $47,000.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Record of Decision: Site Name: McKin Site, ME Contaminated media: gw, sw, soil, air Key contaminants: volatile organics (freon, xylene), solvents (TCE, DCE)		

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JUL 15 1983

Record of Decision
Initial Remedial Measures Alternative Selection

Site: Mckin Site, Gray, Maine

Analysis Reviewed:

I have reviewed the following documents describing the analysis of cost effectiveness of remedial alternatives at the Mckin site:

- Cost-Effectiveness Evaluation of Initial Remedial Measure Alternatives at Mckin, Gray, Maine, May 1983.
- Remedial Action Master Plan for Mckin, Gray, Maine, April 1983.

Description of Selected Option:

- On-site cleaning of tanks.
- Transport empty tanks off-site for salvage.
- Transport liquids & sludges off-site for disposal.

Declarations:

Consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and the National Contingency Plan (40 CFR PART 300), I have determined that the selected option for the Mckin site is a feasible and cost-effective remedial action necessary to protect public health and the environment. I have also determined that the action being taken is appropriate when balanced against the need to use Trust Fund money at other sites. In addition, I have determined that the off-site transport of hazardous substances is more cost-effective than other remedial actions and therefore consistent with Section 101(24) of CERCLA.

Lee M. Thomas
Assistant Administrator
Office of Solid Waste & Emergency Response

COST-EFFECTIVENESS EVALUATION OF INITIAL REMEDIAL MEASURE ALTERNATIVES AT McKIN SITE, GRAY, ME

BACKGROUND

The McKin site is located approximately 1.5 miles east of Gray center on the Mayall Road in Gray, Maine. The site includes approximately 6 acres and is surrounded by residences, the closest being within 200 feet. The site lies in an abandoned sand and gravel pit and currently consists of a fenced enclosure, 21 tanks (12 of which are outside the fence (figure 1)), an incinerator, a concrete block building, an asphalt lined lagoon, and other debris. During the summer of 1979, the Maine Department of Environmental Protection (DEP) supervised the removal of liquid waste from the site by Maine Waste Oil (MWO) of Buckfield, Maine. However, sludge not removable by pumping was left on-site. MWO contracted Cannon Engineering to drain the large tanks and 165 fifty-five gallon drums and to remove all contents to the Cannon facility in Bridgewater, Massachusetts. Aproximately 33,500 gallons of oil and chemical waste were removed from the site to the Cannon facility. This accounted for all liquid stored above ground in tanks or drums. In addition, a number of empty 55-gallon drums, found south of the site in the woods, were moved to the enclosed area. A magnetometer survey was performed shortly after the drums were moved; no buried drums were located in the woods, but some were found in the northwest corner of the site.

In August, 1982, EPA monitored the air at the Mckin site. As shown on the site map (figure 1), a number of tanks lie outside of the enclosed area. Some of these tanks have open nozzles and some have up to 18 inch square openings cut or punched into them. Tank No. 10 at the northern end of the site has an open nozzle and air readings within the nozzle indicate 150 to 200 ppm of volatile organics (as measured by EPA on July 9, 1982, and verified by EPA's contractor on September 2, 1982). Similarly, Tank No. 12 within the fenced enclosure had a volatile organics reading of about 700 ppm. Air readings outside of the site indicate background levels of between 2 and 6 ppm volatile organics. Ambient air readings throughout the site were also in that range. These values are not absolute and are used for comparison only.

In March 1983, the Maine Department of Environmental Protection (DEP) went onsite and tested the materials left in the tanks. Concentrations of dichloroethylenes, freons, trichloroethylenes, and xylenes of up to 20% were found in four of the tanks. These tanks vary from good to poor condition. Some are very rusty and possibly leaking. (See Attachment 1 for individual tank discriptions and analysis results). Several tanks containing liquids and sludge were not analyzed. As

Tank 1 is outside the fence and has an opening in the top, there is a hazard of direct human contact. Tanks 11 and 12, inside the fence, are rusted and may be leaking, presenting a direct contact hazard and a potential contribution to further ground water contamination. Removal and disposal of all liquids and sludges is recommended by the RAMP in order to mitigate the threat of direct contact and further ground water contamination. While not all the tanks appear to be in a leaking or deteriorating condition, the presence of the tanks on the site will hamper the investigation scheduled for the site. Their presence limits work that can safely be conducted on the site. In addition, it is not contemplated that any final remedy would include leaving the tanks permanently on the site.

The public has been thoroughly involved with this site for several years. The draft RAMP was available for public comment during a two week period in January 1983. The alternatives considered for the Initial Remedial Measures were discussed at a public meeting held on March 8, 1983. Both at the meeting and during the comment period following the meeting, all public comments supported the removal of the liquids, sludges, and tanks from the site.

RECOMMENDATION FOR CORRECTIVE ACTION

To consider the available alternatives for dealing with the hazards posed by the liquids, sludges, and the tanks themselves, EPA analyzed the six different potential actions. The summaries of each of these six potential actions are presented below in two "source" categories, in order to facilitate a clear comparison of the alternatives.

o EPA considered the following three alternatives for the problems posed by the liquids and sludges:

1. On-site incineration of liquids and sludges.

   EPA analyzed the possibility of mobilizing portable equipment for incineration of the approximately 6500 gallons of liquids and sludges. The option was not considered viable for two reasons. First, the cost of this alternative including mobilizing the incineration equipment was estimated to be $100,000. Considering the limited amount of liquids and sludges to be incinerated, such an expense was not considered to be cost-effective.

   Second, the close proximity of the site to a residential area created public health concerns with respect to the use of the incinerator.

   The availability of other alternatives not presenting these public health concerns influenced the Agency not to recommend this alternative.

2. On-site storage of liquids and sludges in secure containers.

   An analysis of the possibility of repacking liquids and sludges in secure containers to protect public health and the environment without removing the hazardous materials from the site indicated that the approach is feasible but that it increased the logistical and safety problems already of concern on the site. The RAMP anticipates time delays in the RI/FS and, thus, increases in the total costs that would result from the need to move tanks around the site in order to sample the soil beneath them.

3. Transport liquids and sludges off-site for disposal.

   This is the recommended alternative for liquids and sludges.

   The estimated cost of draining, transporting, and disposing of liquids and sludges is $15,400. This cost incorporates personal safety protection that includes respiratory protection as necessary, and waste compatability testing.

o <u>With respect to the tanks, EPA considered the following three alternatives</u>:

1. Transport contaminated tanks off-site for disposal.

   This alternative presents a major logistical problem, in that, several of the tanks are too large to be transported on highways without being cut up.

   This problem, in addition to the high cost of transportation to and disposal at a secure landfill, eliminates this alternative from serious consideration. The cost of various scenarios possible in this alternative would range roughly from $100,000 to $500,000.

2. On-site cleaning of tanks and temporary on-site storage of tanks.

   This alternative would minimize threats to public health and the environment from the tanks on-site. The problems with this alternative are that relocating the tanks on-site may be necessary to facilitate operations at the site, and additional mobilization and decontamination of the tanks may be required before they could be removed and the site closed.

   A complete costing of this alternative is not possible due to these uncertainties.

3. Clean tanks on-site and transport tanks off-site as salvage.

   This is the recommended alternative for the disposal of tanks.

   The estimated cost of $31,400 includes the on-site draining and cleaning of all tanks present. The tank cleaning will include scrubbing, triple rinsing, and certification as gas free. Oversized tanks will be cut up to sizes suitable for over-the-road transportation.

   These costs are based on personal safety protection including respiratory protection as necessary, with only one mobilization of contractors for cleaning and handling of the tanks instead of the two or more mobilizations that would be required under other alternatives.

   This alternative is compatible with the recommended alternative for liquids and sludges.

SUMMARY OF RECOMMENDATIONS

Liquids and sludges: Transport off-site for disposal (alternative 3)

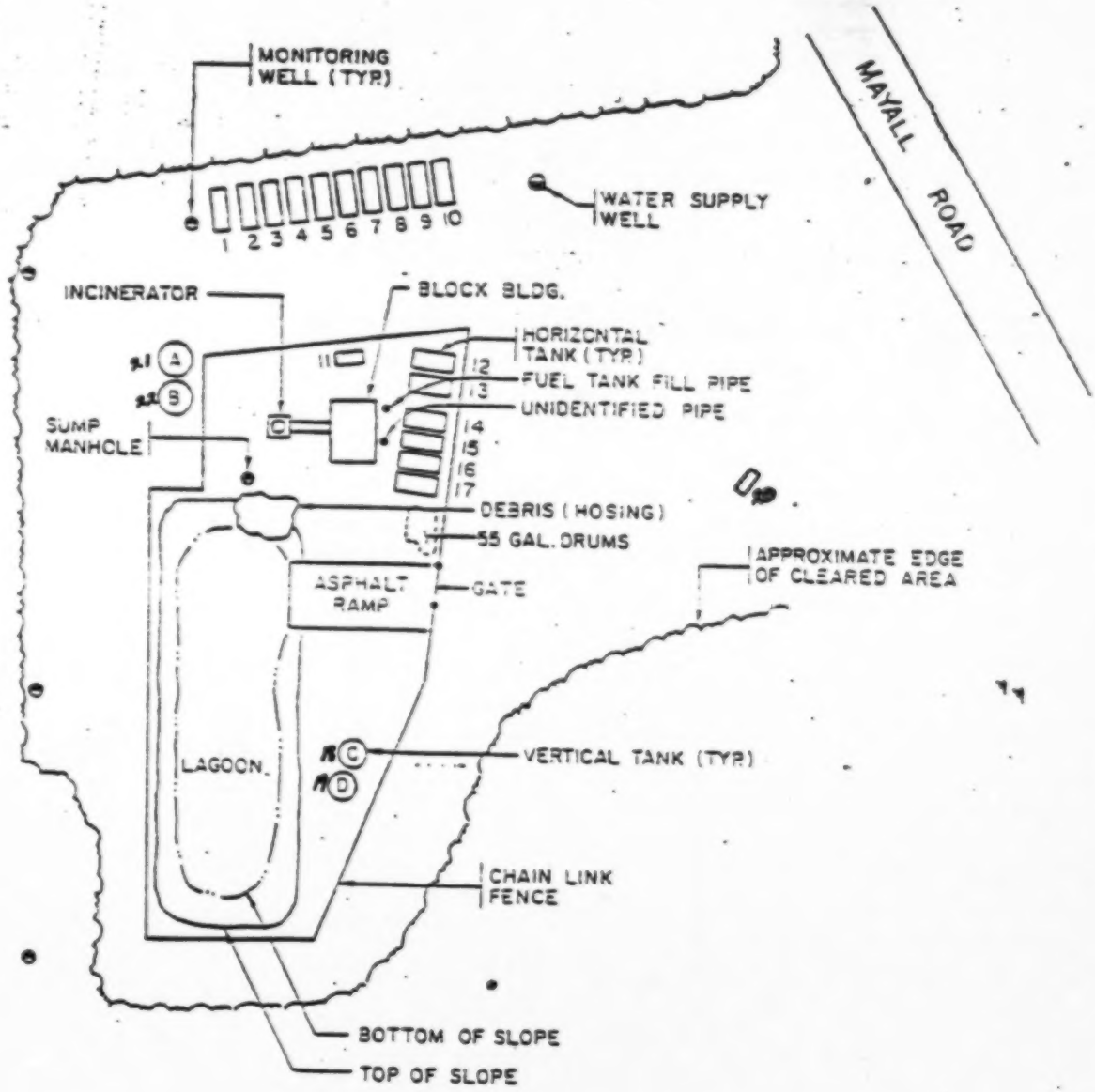
Tanks: Clean on-site and transport off-site as salvage(alternative 3)

The total cost for this alternative would be approximately $47,000 and are itemized to illustrate the varied cost for each contamination level.

Estimated Costs Of The Recommended Alternatives.

	Known Contaminated	Untested liquids	Empty	Total
Liquids and Sludges:				
Transport of-site for disposal (including cleaning solutions)	$14,000	$1,000	$400	$15,400
Tanks:				
Clean on-site	10,200	4,000	1,200	15,400
Transport off-site as salvage	4,000	7,000	5,000	16,000
	$28,200	$12,000	$6,600	$46,800

*Cost estimates provided by Maine DEP



APPROXIMATE SCALE: 1"= 100'

FIGURE 1

McKIN SITE GRAY, MAINE

N

CAMP DRESSER & McKEE INC.

One Center Plaza
Boston, Massachusetts 02108

ATTACHMENT 1
McKIN SITE INVESTIGATION

Tank No.	Approximate Size	Sample Characteristics	Comments
1.	5'3" x 18" (2,900 gals)	VOA 106054 RUSTY SAND; REAL DRY	Sampled obtained through guaging opening; approx. 12" of material in rear of tank; tank TILTED DOWN AT NORTH END, estimated volume of material: 15 gallons
2.	5'3" x 18" (2,900 gals)	NOTHING DETECTED	Tilted down at north end, could get down to bottom of tank at south end, but could not check the north end.
3.	5'3" x 24' (3,900 gals)	VOA 106043 black tarry oil-like material sour tank bottom-like smell	3" of material at north end of tank, TANK TILTED slightly at north end; estimate of volume: 20+ gallons
4.	5'3" x 24' (3,900 gals)	composite: SVO 105052; water-like liquid	2" at deepest; tank tilted at north end. Estimated volume of material: 20+ gallons
5.	5'3" x 24' (3,900 gals)	NOT WORTH SAMPLING	----------
6.	5'3" x 24' (3,900 gals)	VOA 106096 dried greasy scum	Clingage material that remained on inside wall of tank
7.	5'3" x 24' (3,900 gals)	DRY DIRT, leaves, no liquid	----------
8.	5'3" x 24' (3,900 gals)	VOA 106051 WET; odd-smelling sludge	a few gallons
9.	5'3" x 18' (2,900 gals)	composite SVO 105052	3" at north end; tank tilted at north end; 20+ gallons
10.	5'3" x 18' (2,900 gals)	BONE DRY	DRY
11.	5'3" x 18' (2,900 gals)	black, tarry-like material VOA 106053	6" deep; entire length of estimate of volume: 150 gals

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McKIN SITE INVESTIGATION (Continued)

Tank No.	Approximate Size	Sample Characteristics	Comments
12.	10' x 36' (21,000 gals)	black, tar-like sludge; chemical odor VOA 106048	Large tank in poor condition; tank half-buried; very rusty; maybe leaking, solvent-like odor very noticeable around this tank. Estimated volume of remaining waste: 6,000 gallons.
13.	10'6" x 30' (19,500 gals)	composite sample	Rusting tank; poor condition; 12" of sludge/water in tank; estimated volume left in tank: 1,000 gallons.
14.	10' x 25' (14,700 gals)	appears to be oil and water	2 1/4" of oil/water mix; estimate of material left in tank: 150 gallons.
15.	10' x 25' (14,700 gals)	no sample	DRY
16.	10' x 25' (14,700 gals)	no sample	DRY
17.	10' x 25' (14,700 gals)	no sample	DRY
18.	8'6" x 30' (12,700 gals)	no sample	vertical tank; could not gain access. Tank empty (determined this by hitting the outside of the tank).
19.	8'6" x 30' (12,700 gals)	contaminated water; composite sample SVO 105052	12" of contaminated water. vertical tank
20.	5'3" x 18'	no sample	DRY
21.	25,000 gals	no sample	no access; appears empty
22.	25,000 gals	no sample	no access; appears empty

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LAB RESULTS

DATE: 3/23/83

RESULTS TO: H. Aho DEPT. OHMS

LAB ANALYST: T. Potter DEPT. LABORATORY SERVICES ENVIRONMENTAL PROTECTION

SAMPLE LOCATION Tanks From McKin, Gray

DATE SAMPLED: 3/17/83 DATE RECEIVED: 3/17/83

Parameter	Volatile Solvents			
Sample Matrix	Oil - Sludge			
Analytical Method	GC - MS, Headspace			
Date Extracted	----			
Date Analyzed	3/22/83			
SAMPLE NUMBERS	106054	106048		
	106043	106076		
	106096	106095		
	106051			
	106053			

RESULTS:

No Volatile solvents were detected in samples 106043, 106096, 106051, 106076. The estimated detection limit based on 1,1,1 Trichloroethane was 10 milligrams per kilogram.

The following compounds were found in the remaining samples:

(over)

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GC = Gas Chromatography
MS = Mass Spectrometry
FID = Flame Ionization Detector
ECD = Electron Capture Detector
P&T = Purge and Trap

< = Less Than
> = Greater Than
J = Approximately

Concentration (% by weight)

Sample Number	Dichloroethylenes	Freons	Trichloroethylenes	Xylenes	Tank
106048	N.D.	0.1	10 to 20	0.1	12
106095	0.1	N.D.	0.1	0.2	
106053	N.D.	N.D.	2	0.1	11
106054	N.D.	N.D.	0.5	N.D.	1

* N.D. indicated not detected

Note that the only oil layer was analyzed in sample 106095. A hydrocarbon mixture chromatographically similar to gasoline was also found in this sample.

Note: Composite sample not analyzed for VOC's H.Aho to ET 5/18/83

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